IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	:		
Stephany Jean Head	:	Art Unit:	3625
Serial No. 10/663,912	:	Examiner:	Robert M. Pond
Filed: September 17, 2003	:	Atty Dkt:	4803.100
For: A BUSINESS PROCESS FOR INCREASING WIN PROBABILITY IN LARGE COMPLEX CONTRACT COMPETITIONS			

EXPERT DECLARATION OF WILLIAM P. OSTERBERG

I, William P. Osterberg, declare as follows:

1. I have a PhD in Economics and am currently self-employed as a consultant. I am performing this work as a paid consultant. My compensation does not depend on the outcome of this patent application, U.S. Patent Application No. 10/663,912, filed September 17, 2003 by Stephany Head ("the 912 Application").

2. I have performed, and I am familiar with the art of industry analysis pertinent to the patent application. Specifically, I am familiar with the collection, assessment, analysis, and usage of data items such as are referenced in the application and that would be essential to the use of the patent. In particular, I am familiar with the industrial classification of data items such as are discussed in the patent application from having worked with such data while as Economist/Commodity Analyst at the Bureau of Labor Statistics, as a research economist conducting economic analyses of policy impacts at the Federal Reserve Bank of Cleveland, and as a visiting professor at the University of Notre Dame teaching courses on Intermediate Microeconomics Theory and Business Conditions Analysis. I am familiar with the statistical and/or econometric techniques that are discussed in the application.

3. More generally, I am experienced in the collection, assessment and analysis of the range and type of data sources as a professor of economics and finance, an economist and researcher in the Federal Reserve System, and as a consultant in emerging markets for the International Monetary Fund. In these capacities I regularly worked with both cross-sectional (a single point in time, but for individual economic units) data, time series data (a single economic unit, at varying points in time), and panel data (varying across units and point in time).

4. I have been involved in the collection, assessment, and analysis of economic and financial data since 1976. This time period includes my doctoral studies at the University of Wisconsin. A copy of my curriculum vitae is attached as Exhibit A.

5. I have read and understood the 912 Application, including its Specification and pending claims 1-6, 8, and 10-14 (the Claims). I have also read the United States Patent and Trademark Office communication mailed April 12, 2009 concerning the 912 Application ("the Office Action"), and particularly pages 4-5 wherein the Examiner argued that claims 1-6, 8, and 10-14 failed to comply with the enablement requirement and were indefinite for failing to particularly point out and distinctly claim the subject matter regarded as the invention.

6. I believe that I am qualified by education, training, and experience to address what a person of skill in the art of industry analysis would have understood from a reading of the 912 Application at the time it was filed.

7. My understanding of the enablement requirement is that the claims must contain subject matter described in the specification in such a way as to enable one skilled in the art to which it pertains to make and/or use the invention without undue experimentation. Based on my review of the 912 Application and my education, training, and experience in the industry, I believe the rejection of claims 1-6, 8, and 10-14 under 35 U.S.C. § 112, first paragraph, is in error. My view is that the Specification and the Claims provide sufficient guidance to one of ordinary skill in the art of industry analysis to practice the invention, in particular the Claims, without undue experimentation.

8. My understanding of the definiteness requirement is that the claims must particularly point out and distinctly claim the subject matter which is regarded as the invention. Based on my review of the 912 Application, I believe the rejection of claims 1-6, 8, and 10-14 under 35 U.S.C. § 112, second paragraph, is in error. My view is that one skilled in the art would understand that the claims particularly point out and distinctly claim subject matter regarding as the invention. Further, it is my view that one skilled in the art would understand the bounds of the terms in the Claims, including, but not limited to: "identifying an industry standard," "assigning numerical values," "adjusting each of the assigned numerical values," and "framing a response" point out and distinctly claim subject matter.

9. From my experience conducting industry analysis and working with data such as are referenced in the application, and from my extensive experience with a wide range of data sources, data types, analytical techniques and applications of such analyses; it is clear to me that one of ordinary skill in the art of industry analysis as described in the patent application would have familiarity with the following industrial classification schemes: NAICS, NACE, ISIC, and GICS.

10. Such an individual would understand that the concept of industry no longer simply indicates a group of companies with similar products, but rather a group of companies with similar production processes. Such an individual would know that the North American Industry Classification System (NAICS) replaced the SIC system in 1997 and was developed jointly by the U.S., Canada, and Mexico. He/she would know that NACE refers to the Classification of Economic Activities per the European Union. He/she would know that ISIC denotes the International Standard Industrial Classification system associated with the United Nations. Perhaps most importantly, he/she would be familiar with the Global Industry Classification Standard (GICS).

11. To an individual of ordinary skill in the art it is known that the GICS is used as a basis for S&P and Morgan Stanley Capital International financial market indexes in which each company (for both developed and developing countries) is assigned to an industry, a sub-

industry, and to a sector, according to the definition of its principal business activity. Such an individual would know that research such as that by Sanjeev Bhojrai, Charles M.C. Lee, and Derek Oler ("What's My Line? A Comparison of Industry Classification Schemes for Capital Market Research," Journal of Accounting Research, 41[5], pp. 745-774, 2003) has shown that the GICS does better than the NAICS in explaining stock market returns and certain other financial indicators.

12. Furthermore, such an individual would be aware of the efforts that have been made, and that continue to be made, to provide concordances between the classification schemes mentioned here. He/she would know of the efforts documented by the U.S. Census Bureau (http://www.census.gov/epcd/naics/concordances/index.html), and of the efforts of an international working group looking at the systems of North American, Europe, and the United Nations (http://www.census.gov/epcd/naics/internatworkg).

13. Having such familiarity with industry classification, one ordinarily skilled in the art of industry analysis would be able to identify which readily available data items would be pertinent to the calculation of the wealth factors of the vendor having employed the analyst, the value position of the buying organization having issued the Request for Proposal (RFP), and the value positions of possible competitors. Such identification and subsequent collection of data is facilitated by the invention under consideration.

14. As it is generally useful to be able to provide an economic interpretation of the determination of value position, one ordinarily skilled in the art of industry analysis is familiar with basic concepts employed in industrial organization (IO) analysis. He/she would be skilled in the art of providing economic interpretation of data necessary to calculate the value position discussed in the invention. Those working in the area of industry, competitor, and organizational analysis would be particular aware of the standard data items pertinent to the calculation of the wealth factors. These include the distinctions between perfect competition, monopolistic competition, oligopoly, and monopsony. Firm decisions about pricing and volume are understood to be not just driven by the number of buyers and sellers in the industry by but strategic and/or game-theoretic behavior. The data items made available with the use of the invention facilitate the analysis of firms and industries using these concepts.

15. To one ordinarily skilled in the art, the discussions about how to use industry and firm data in Competitive Strategy: Techniques for Analyzing Industries and Competitors (Michael Porter, 1980[1]) are familiar and useful in choosing and analyzing data items to be used as wealth factors.

16. Measuring the Degree of Rivalry among firms in the same industry is now understood to involve more than just calculating the concentration ratio (the percentage of market share held by the largest firms; either 4, 8, 25, or 50). The Herfindahl-Hirschman Index[2] measures

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[1] Porter, Michael, Competitive Strategy, Techniques for analyzing Industries and Competitors, Copyright 1980, The Free Press

[2] "HHI" means the Herfindahl-Hirschman Index, a commonly accepted measure of market concentration. It is calculated by squaring the market share of each firm competing in the market and then summing the resulting numbers. For example, for a market consisting of four firms with shares of thirty, thirty, twenty and twenty percent, the HHI is 2600 ($30^2 + 30^2 + 20^2 + 20^2 = 2600$).

concentration while capturing a shift in market share among firms. However, an ordinarily skilled practitioner understands the economic behavior characterizing rivalry well enough to be able to assess data that indicate the ease with which rivals might be able to seek advantage.

17. Among the influences on the Degree of Rivalry are included: the number of firms, the growth rate of the markets, the size of fixed costs, the size of storage costs, whether switching costs are high, whether products are easily differentiated, whether exit barriers are high, whether rivals are diverse, and whether there is an ongoing or anticipated industry shakeout (e.g., concentration ratio[3]). The invention facilitates the consideration of all such information and provides for a mean to quantify such influences.

18. One of ordinary skill in the art of industry analysis would be familiar with the influences on the extent to which the firm faces the Threat of Substitutes. The key concept of price elasticity denotes not just the calculation of the sensitivity of the firm's product to changes in the prices of related products in other industries, but also the conditions that influence such sensitivity. It is well known that price elasticity is influenced by; the availability of substitutes, the extent to which the products are necessities as opposed to luxury items, the proportion of a typical consumer's budget comprised by the products, and the time period over which price changes are considered.

19. The invention permits a focus when defining the industry since a wide range of data sources is possible.

20. A practitioner of ordinary skill is aware that the value position of a firm is also influenced by Buyer Power, denoting the extent to which buyers influence the prices of the firm's products. Among the factors that are well known to influence Buyer Power are included; concentration among buyers, whether products are standardized, whether buyers can threaten backward integration, whether producers can threaten forward integration, and whether buyers are fragmented implying that none are likely to influence prices. A person of ordinary skill could assess the appropriateness of the available data to the measurement of Buyer Power and the calculation of wealth factors.

21. One of ordinary skill would understand the industry analysis requirements and the availability of data sources necessary to assess the wealth position of the buying firm. Here it is understood that the same considerations as indicated for Buyers Power are relevant. The invention makes available to the user a range of accepted data sources. The choice of which data items to include in the calculations is based on the user's understanding of the

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The HHI takes into account the relative size and distribution of the firms in a market and approaches zero when a market consists of a large number of firms of relatively equal size. The HHI increases both as the number of firms in the market decreases and as the disparity in size between those firms increases.

Markets in which the HHI is between 1000 and 1800 points are considered to be moderately concentrated, and those in which the HHI is in excess of 1800 points are considered to be concentrated. Transactions that increase the HHI by more than 100 points in concentrated markets presumptively raise antitrust concerns under the Horizontal Merger Guidelines issued by the U.S. Department of Justice and the Federal Trade Commission. See Merger Guidelines § 1.51. (U.S. Department of Justice)

[3] The concentration ratio, CR, is the sum of the market shares for a number of firms; for the four-firm CR we add the market share of the four largest firms, whereas for the 8-firm CR we sum the market value of the eight largest firms.

industry economics along with an understanding of the informational content of the data. Both of these understanding are based on well-accepted practices and disciplines used by persons skilled in the art.

22. The existence of Barriers to Entry or Barriers to Exit is familiar to an ordinary practitioner of the art. While these might well be qualitative and industry specific, the invention allows the user to quantify such information and to assess the extent to which the resulting analysis is affected by such judgments. The influences on barriers to entry would be familiar to the ordinary practitioner: government's role in granting exclusivity or through regulation; the extent to which the products of the industry used patents or other knowledge treated as private property; the extent to which firms in the industry require very specialized productive assets; and the extent of any economies of scale.

23. A person of ordinary skill in the art would understand the rationales for considering the following as influences on barrier to exit: the extent to which the assets of a typical firm in the industry are saleable, whether the firms were independent rather than part of a larger entity, and whether other exit costs are high.

24. To one skilled in the art, the concepts of risk aversion and risk seeking are familiar and useful in assessing the probability of accepting or rejecting an investment or proposal. Risk aversion (or risk seeking) can be applied to a proposal or investment that, once all possible outcomes have been weighted by their probabilities, is expected to generate a loss or a gain. It is understood that not only the weighted probability (expected value) is relevant, but also the variance over possible outcomes. Firms that are risk seeking are more likely to accept a proposal that has been shown to have a negative expected position. The patent under consideration provides for explicit consideration of risk preference. Such consideration is greatly facilitated for one ordinarily skilled in the art by the ready availability of data indicative of risk preference. For example, firms paying less stable dividends might be concluded to be less risk averse as their owners might be more tolerate of volatility in their total return. Other firm characteristics revealed through the available data would assist the user provide an assessment of the risk preference of the buyer.

25. The art of industry analysis entails some familiarity with econometrics and statistics. One with a PhD in Economics of Business, an MBA, or a Masters degree in Economics or Business, having been exposed to intermediate (or above) level classes in statistics or econometrics, would be easily capable of understanding the factor analysis (principal component analysis) employed by the invention with no additional study. Individuals of these skill sets are normally employed at firms to support such analysis.

26. It would be understood that the factors (principal components) calculated by the invention after the choice of data inputs, would by definition be orthogonal to each other so that they were statistically unrelated. This means that, unlike the situation where a large number of variables are used jointly to explain a single variable and such variables are statistically interrelated, it is feasible (and useful) to be able to discuss the influence of each factor separately. Ordinary skilled in the art of industry analysts would have the necessary training and experience to conduct the necessary statistical and variable analysis to understand the interdependency of factors as well as their individual influence.

24. Furthermore, each factor can be understood by one skilled in the art as a combination of some of the individual data inputs, with the contribution of each to the factor being known as

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factor loading. The ordinary practitioner, being familiar with the economics of industrial organization (IO) analysis, and the literature on competitiveness as exemplified by Michael Porter (cited above) will be readily able to provide an interpretation of such statistical relationships.

25. All statements I made in this declaration of my own knowledge are true. I believe all statements made on information and belief to be true. I made these statements with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of title 18 of the United States Code and that such willful false statements may jeopardize the validity of the patent.

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Exhibit A

William P. Osterberg

Curriculum Vitae

Dr. William Osterberg focuses on economic development strategy, financial market structure, international financial markets, and policy analysis. Dr. Osterberg has over seventeen (17) years as a research economist conducting economic analyses of policy impacts. His economic and financial analysis work has appeared in the Federal Reserve Bank of Cleveland, First Quarter, Research in Finance, Journal of International Financial Markets, Institutions, and Money, and the Journal of Financial Services Research. From May 2003 through October 2008, he completed extensive analyses at four different central banks of the effectiveness of operations in achieving policy goals for the International Monetary Fund (IMF). Dr. Osterberg has advised central banks in emerging markets on policy initiatives to develop money markets, identifying infrastructural, economic, legal, and policy-related impediments to increased volume of short-term debt securities. He has devised strategies to increase volumes and enhance the effectiveness of monetary policy. He has published influential papers on the impact of depositor preference legislation on bank resolution costs, and the impact of central bank intervention on the risk premium in exchange rates. Dr. Osterberg has a Ph.D. in economics from the University of Wisconsin, and served as a Visiting Assistant Professor at the University of Notre Dame teaching courses on Intermediate Microeconomics and Business Conditions Analysis.

Experience Summary

International Monetary Fund, Washington, D.C. 0 2003 - present
Monetary Operations Advisor / Money Market Development Specialist
Advise foreign central banks on forecasting and financial policy impacts. Responsible for analyzing financial market operations of central banks, devising plans for improving the effectiveness of operations in achieving policy goals. Develop new policies to stimulate market growth. Discuss proposals with commercial banks and other financial market participants.

Key Achievements

Calculation of break-even yields on treasury securities to financial market professional and central bank staff (Sierra Leone, 2004).
Achieved goal of having central bank staff regularly prepare improved forecasting procedure using time-series techniques (Malawi, 2005).
Identified infrastructural and legal impediments to the introduction of bank-to-bank repurchase agreements and devise central bank strategy for increasing market volumes (Kenya, 2006).
Developed strategy for introduction of primary dealership system, taking into account high level of concentration in banking industry (Lesotho, 2006)

University Of Wyoming, Laramie, Wy – 2002 - 2003
Visiting Assistant Professor
Teach undergraduate courses on Corporate Finance and Intermediate Macroeconomics.

Federal Reserve Bank of Cleveland, Cleveland, OH – 1992 - 2002
Economist II

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Develop research program to generate publications on banking and financial market institutions and policies (journal publications, articles for the general public). Formulate analytical framework, review relevant literature, organize data, conduct econometric tests, write and revise articles for publication based on comments from internal and external reviewers. Provide commentaries on economic and financial developments. Advise bank president. Contribute to writing of speeches and other internal documents. Make presentations to industry groups, community associations, and academic conferences. Supervise research assistants. Serve as co-editor for bank publications series.

Key Achievements

Test hypotheses about the impact of G3 intervention on the mean and variance of exchange rates using Generalized heteroscedastic autoregressive (GARCH) and Fractionally Integrated GARCH (FIGARCH). Found that intervention had inconsistent impacts and might increase volatility.

Analyze the purported impact of national depositor preference legislation on government's cost of resolving bank failures. Identify the roles played by solvency and resolution type. Utilizing panel-data techniques, published paper showing that under certain conditions cost reductions might not be realized.

Conducted key analysis of the monetary policy outlook for use by the bank president in arguing for his view of the appropriate interest rate policy at meetings of the Federal Open Market Committee. Adjust DRI quarterly model of the U.S. economy to incorporate recent developments and key aspects of the president's view of the monetary transmission mechanism. Simulate the effects of alternative monetary policies.

Wrote and published (December 1994) widely cited article on the linkage between capital flows from U.S. to Mexico and studies of NAFTA. Article translated, reprinted in Este Pais, Mexico City, May 1995.

University Of Notre Dame, South Bend, Indiana – 2000 - 2001
Visiting Assistant Professor

Teach undergraduate and MBA courses on Intermediate Microeconomics and Business Conditions Analysis.

Department of Labor, Bureau of Labor Statistics, Division of Industrial Prices and Price Indexes, Washington, D.C – 1976 – 1980
Economist/Commodity Analyst, GS7-11

Analyzed movements in wholesale prices for refined petroleum, crude petroleum, industrial chemicals, pharmaceutical products, paints and paint products, oils and fats. Conducted industry analyses as part of major revision to the wholesale price indexes (then renamed producer price indexes. Reviewed pricing data for appropriateness regarding its inclusion in index calculations.

Key Achievements

Completed industry analysis of SIC 2812, recommending regional stratification of index structure based on regional differences in production processes and market structure. Study used by the agency for over a decade as example of regional stratification

Along with one other economist/commodity analyst, completed major revision of price index structure for gasoline, to include unleaded gasoline (late 1970s)

Conducted industry analysis of pharmaceutical products, suggested major overhaul of index structures, to align to with recent development of new products.

Education

Ph.D., Economics, University of Wisconsin.

BA, Political Science and Economics, University of Delaware.

Quantitative Background

PhD, Economics (Macroeconomics and Monetary Theory, Econometrics and Statistics, International Trade and Finance), University of Wisconsin.

Doctoral Level Coursework included:

Microeconomic Theory Sequence (Two semesters), Macroeconomic Theory Sequence (Two semesters), Econometrics (Three semesters), Stochastic Processes (One Semester), Advanced Macroeconomic Analysis, International Trade and Finance (Two Semesters)

Publications

"New Results on the Rationality of Survey Measures of Exchange Rate Expectations," Economic Review, Federal Reserve Bank of Cleveland, First Quarter, 2000.

"An Analysis of the Causal Relations Among Inflation, Financial Structure, Tobin's q, and Investment," Research in Finance, 1992, v. 10, 129-149.

"Tobin's q, Investment, and the Endogenous Adjustment of Financial Structure," Journal of Public Economics, 1989, v. 40, 293 318.

"The Hidden Costs of Mexican Banking Reform," Economic Commentary, Federal Reserve Bank of Cleveland, Jan 1, 1997.

Joint author of published economic analyses "Deviations from Daily Uncovered Interest Rate Parity and the Role of Intervention," with Richard Baillie, Journal of International Financial Markets, Institutions, and Money, 10 (2000), 363-379.

"Central Bank Intervention and Risk in the Forward Premium," with Richard Baillie, Journal of International Economics, 1997, v. 43, 483-497.

"Optimal Financial Structure and Bank Capital Requirements: An Empirical Investigation," with James Thomson, Journal of Financial Services Research, 1996, v.10, 315-332.

"Bank Capital Requirements and Optimal Capital Structure for Banks," with James Thomson, Research in Finance, 1996, v.16, 87-98.